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EXAMINER

WU, YICUN

ART UNIT PAPER NUMBER

2165

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/764,612

Applicant(s)

RYS ET AL.

Examiner

Yicun Wu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

*Yicun Wu*  
Patent Examiner  
Technology Center  
2/07

### III. DETAILED ACTION

1. Claims 1-49 are presented for examination.

#### Examiner's Remarks

2. In response to Applicants Amendments and remarks, Claim Rejections under 35 USC § 101 as to claim 1-14 and 35 USC § 112 and claim objection are hereby withdrawn.

Applicant argues:

(1) "Cheng ... rather than transforming hierarchical data into a rowset.

(2) "There is no disclosure or suggestion of the many claimed aspects of the *query processor...*"

(3) There is nothing in ...*that holds a parsed image of the hierarchical data*"

Examiner disagree.

With respect to the 1<sup>st</sup> argument, the Examiner consider "a) Parse the DTD and generate its internal tree structure, and b) Store DTD data into the XML\_DTD\_REF table. col.14, lines 45-48) and (col. 10 lines 31-34) as rowset data.

With respect to the 2<sup>nd</sup> argument, the Examiner consider (i.e. DB2's Select. Col. 4, lines 7-19) as teaching query processor.

With respect to the 3<sup>rd</sup> argument, the Examiner consider "a) Parse the DTD and generate its internal tree structure, and b) Store DTD data into the XML\_DTD\_REF table. col.14, lines 45-48) clearly teaches "*that holds a parsed image of the hierarchical data*".

**Claim Rejections - 35 USC 101**

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

Claims 30-36 and 45-48 are rejected under 35 U.S.C. 101 because the claims are directed to a non-statutory subject matter, specifically, directed towards "computer readable medium".

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material. "The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions.

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Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine.

A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

On the other hand, from a technological standpoint, a signal encoded with functional descriptive material is similar to a computer-readable memory encoded with functional descriptive material, in that they both create a functional interrelationship with a computer. In other words, a computer is able to execute the encoded functions, regardless of whether the format is a disk or a signal.

These interim guidelines propose that such signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of § 101. Public comment is sought for further evaluation of this question.

Page 16, paragraph [0048] is evidence that Applicant intends for “computer readable medium” to include embodiments where the medium is not limited to the media that the Office believes are capable of realizing the underlying functionality of the instructions.

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Specifically, while the volatile and not-volatile embodiments would be statutory, the transmission media as described in the specification is not believed to be covered by any of the statutory categories of invention nor would it enable any underlying functionality to be realized.

Note that deleting subject matter from the specification may raise the issue of new matter.

However, rephrasing is permissible in accordance with MPEP 2163.07.

(Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility

[http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf))

**Claim Rejections - 35 USC § 102**

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-49 are rejected under 35 U.S.C. 102(e) as being anticipated over Cheng et al., (U.S. Patent No. 6,366,934).

As to claim 1, Cheng et al. discloses a computerized system that transforms hierarchical data into a rowset (col. 3, lines 35-60), the system comprising:

a parser that parses the hierarchical data to form an active store (i.e. XML parser. Col. 10, lines 30-40) that holds a parsed image of the hierarchical data (Col. 10, lines 30-40 and col. 14, lines 45-48); and

a query processor that receives from a process a query (i.e. DB2's Select. Col. 4, lines 7-19) of a database query language (i.e. DB2's Select. Col. 4, lines 7-19) including a number of metaproperties (i.e. the UDFs 144 may be included in SQL statements to describe properties of XML documents via DB2XML attribute values, to search for element content or XML attribute values by specifying the structural path, or to search for XML documents by a structural search on both path and content.. col. 8, lines 15-20) and that uses the query in selecting a subset of the

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data (i.e. DB2's Select. Col. 4, lines 7-19) from the active store that matches the query to form the rowset, and returns the rowset to the process as query results(i.e. DB2's Select. Col. 4, lines 7-19 and col.14, lines 45-48).

As to claim 2, Cheng et al. discloses a computerized system wherein the parser comprises:

a module that converts the hierarchical data (i.e. XML documents. Col. 3, lines 35-60) to an internal representation in the active store (i.e. database system. Col. 3, lines 35-60).

As to claim 3, Cheng et al. discloses a computerized system, wherein the internal representation is a document object model (DOM) (fig. 11).

As to claim 4, Cheng et al. discloses a computerized system wherein the internal representation is an edge table (fig. 10-12).

As to claim 5, Cheng et al. discloses a computerized system wherein the hierarchical data is XML data (col. 3, lines 35-60).

As to claim 6, Cheng et al. discloses a computerized system wherein the module comprises:

a module that identifies nodes in the hierarchical data (fig. 10-12).



As to claim 7, Cheng et al. discloses a computerized system wherein the query comprises:

a Structured Query Language (SQL) statement (col. 3, lines 35-60).

As to claim 8, Cheng et al. discloses a computerized system wherein the Structured Query Language (SQL) statement comprises:

a SELECT statement (i.e. select. col. 4, lines 1-20).

As to claim 9, Cheng et al. discloses a computerized system, wherein the query includes row information and the column information comprising:

a row pattern and one or more column patterns that identifies information in the XML active store (col. 14, lines 15-38).

As to claim 10, Cheng et al. discloses a computerized system, wherein the hierarchical data is XML data (col. 3, lines 35-60).

As to claim 11, Cheng et al. discloses a computerized system, wherein the hierarchical data is SGML data (col. 14, lines 15-38).

As to claim 12, Cheng et al. discloses a method comprising:

Receiving a query from a process (col. 3, lines 34-60) and (col. 16, lines 30-39);

Identifying (i.e. conditional select. col. 21, lines 1-30 and col. 22, lines 1-22)

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row and column information in hierarchical data using a database query language (col. 21, lines 1-30 and col. 22, lines 1-22);

using a number of metaproperties and the row and column information in transforming the hierarchical data into a row set (i.e. SQL statements to describe properties of XML documents via DB2XML attribute values, to search for element content or XML attribute values by specifying the structural path, or to search for XML documents by a structural search on both path and content. Col. 8, lines 15-25); and

returning the rowset as query results to the process(col. 3, lines 34-60) and (col. 16, lines 30-39).

As to claim 13, Cheng et al. discloses a method wherein identifying row and column information in the hierarchical data comprises:

using a row pattern to identify row information in the hierarchical data (col. 21, lines 1-30 and col. 22, lines 1-22); and

using a column pattern to identify column information in the hierarchical data (col. 21, lines 1-30 and col. 22, lines 1-22).

As to claim 14, Cheng et al. discloses a method wherein using a number of metaproperties and the row and column information in transforming the hierarchical data into a rowset comprises:

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using a parent ID metaproperty (fig. 10-12) in transforming the hierarchical data (i.e. XML. col. 21, lines 1-30 and col. 22, lines 1-22) into a rowset (i.e. result. col. 21, lines 1-30 and col. 22, lines 1-22).

As to claim 15, Cheng et al. discloses a method wherein using a parent ID metaproperty in transforming the hierarchical data into a rowset comprises:

using the parent ID metaproperty (fig. 10-12) in forming an edge table (fig. 11) for use in transforming the hierarchical data into a rowset (col. 21, lines 1-30 and col. 22, lines 1-22).

As to claim 16, Cheng et al. discloses a method wherein using a number of metaproperties and the row and column information in transforming the hierarchical data into a rowset comprises:

using a parent ID metaproperty (fig. 10-12) and a parent metaproperty (fig. 10-12) in transforming the hierarchical data into a rowset (col. 21, lines 1-30 and col. 22, lines 1-22).

As to claim 17, Cheng et al. discloses a method further comprising:

processing the rowset using relational techniques to form a second rowset (col. 3, lines 34-60) and (col. 16, lines 30-39).

As to claim 18, Cheng et al. discloses a method further comprising:

transforming the second rowset into a second hierarchical data stream (col. 3, lines 34-60) and (col. 16, lines 30-39).

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As to claim 19, Cheng et al. discloses a method further comprising:  
identifying and using implicit data in transforming the hierarchical data into a rowset  
(col. 3, lines 34-60) and (col. 16, lines 30-39).

As to claim 20, Cheng et al. discloses a method comprising:  
forming a rowset (i.e. structured documents. (col. 3, lines 34-60) and (col. 16, lines 30-39) from an XML data file (col. 3, lines 34-60) and (col. 16, lines 30-39); and  
adding overflow data to the rowset to form a second rowset (col. 3, lines 34-60) and (col. 16, lines 30-39).

As to claim 21, Cheng et al. discloses a method wherein forming a rowset from an XML data file comprises:

forming a query including a number of metaproperties query (i.e. SQL statements to describe properties of XML documents via DB2XML attribute values, to search for element content or XML attribute values by specifying the structural path, or to search for XML documents by a structural search on both path and content. Col. 8, lines 15-25); and

processing the XML data file using the query to form the rowset (col. 3, lines 34-60) and (col. 16, lines 30-39).

As to claim 22, Cheng et al. discloses a method wherein adding overflow data to the rowset to form a second rowset comprises:

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adding a column (i.e. XML column. Col. 8, lines 50-55) to the rowset in which to include the overflow data (process and store XML document. Col. 8, lines 50-55).

5. As to claims 23-49, the limitations of these claims have been noted in the rejection above.

They are therefore rejected as set forth above.

**Points of contact**

6. **THIS ACTION IS MADE FINAL**, Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory- period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136 (a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply-expire later than SIX MONTHS from the mailing date of this final action.


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**Conclusion**

7 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 571-272-4087. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Yicun Wu   
Patent Examiner  
Technology Center 2100

March 28, 2007